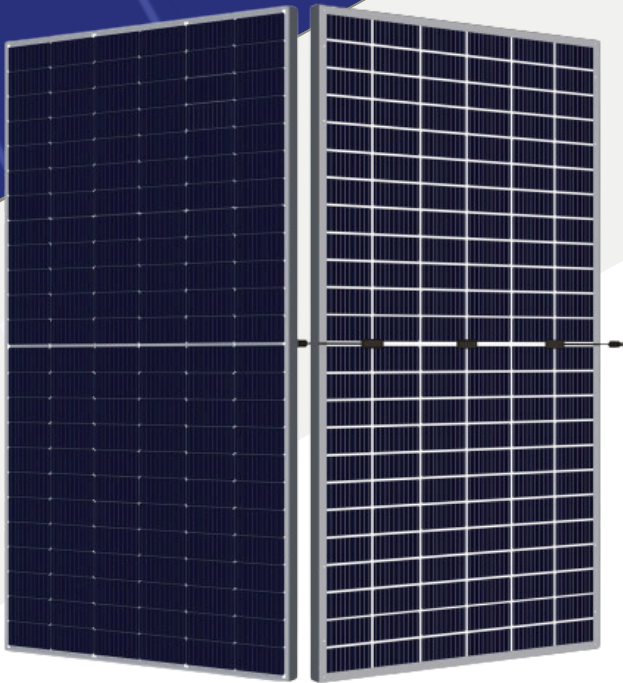


## TOP - 420/440M-108BI

108 CELL  
Mono N - Type Module420 - 440W<sub>p</sub>  
Power Output Range1500VDC  
Maximum System Voltage22.50%  
Maximum Efficiency

## KEY SALIENT FEATURES



Industry leading lowest thermal co-efficient of power



Industry leading 15 years product warranty



Excellent low irradiance performance



Excellent PID resistance



Positive power tolerance of 0~+5%



Fully automated production at all stages



Fully Reduced power loss by minimizing the effect of shadow shading ( 9 - 18 Busbar)



European Warranty &amp; After - Sales Service



## TAMESOL BUILDING A GREEN FUTURE S.L

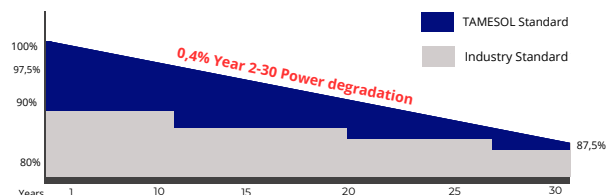
TAMESOL is a global provider of high-efficiency PV panels with a 10GW annual production capacity and a 100% automated production line, innovating state-of-the-art products for over 15 years. Our panels have been installed in more than 50 countries, with over 20 million panels already connected to the grid.

Tel : +34 872 222 388

E - mail: [info@tamesol.com](mailto:info@tamesol.com) Website: [www.tamesol.com](http://www.tamesol.com)

## LINEAR PERFORMANCE WARRANTY

15 year Product Warranty / 30-Year Linear Power Warranty



**22,50%**

MAX MODULE  
EFFICIENCY

**0 - +3%**

POWER  
TOLERANCE

**1,0%**

FIRST YEAR POWER  
DEGRADATION

**0,40%**

YEAR 2-30  
POWER DEGRADATION

**N-TYPE CELL**

Lower operating temperature

**ELECTRICAL CHARACTERISTICS**

STC: AM1.5 1.000W/m2

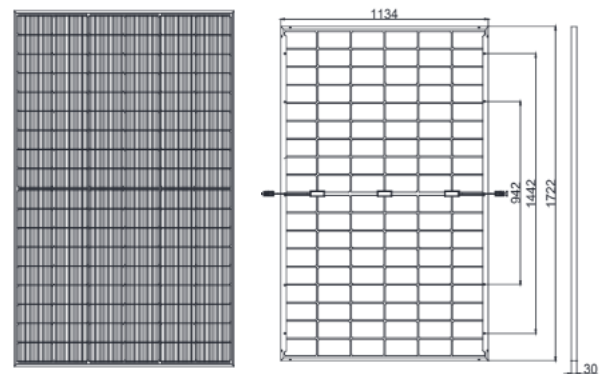
NOTC: AM1.5 800W/m2 20° 1 m/s Test uncertainty for Pmax 0 - +3%

Module type	TOP - 420M-108BI		TOP - 425M-108BI		TOP - 430M-108BI		TOP - 435M-108BI		TOP - 440M-108BI	
	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Testing condition										
Maximum Power (Pmax/w)	420	318	425	321	430	325	435	329	440	333
Open Circuit Voltage (Voc/V)	38.70	36,76	38,99	37.04	39.29	37.33	39.58	36,57	39.86	37.87
Short Circuit Current (Isc/A)	13,74	10.99	13.80	11,04	13.85	11,08	13.91	11,26	13.97	11,18
Voltage at Maximum Power (Vmp/V)	32.11	30.34	32.37	30.59	32.63	30.84	32.88	30,29	33.13	31.31
Current at maximum Power (Imp/A)	13.08	10,46	13,13	10,50	13,18	10,54	13,23	10,67	13,28	10,71
Module Efficiency (%)	21,50%		21,80%		22.0%		22,30%		22.50%	

**MECHANICAL PARAMETERS**

Cell Orientation	single crystal N-Topcon 182x91mm (108 pieces)
Junction Box	IP68, three diodes
Output Cable	300mm, 1200mm (can be customized)
Glass	3.2mm / 3.2mm
Frame	Anodized aluminum alloy frame
Weight	20 kg
Dimensión	1722*1134*30mm
Packaging	36 pcs*pallet / 936pcs*40HC

**PHYSICAL CHARACTERISTICS**



**OPERATING PARAMETERS**

Operational Temperature	-40°C - +85°C
Power Output Tolerance	(0, +3%)
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25 A
Nominal Operating Cell Temperature	45±2°C
Protection Glass	Class II
Fire Rating	Class C
Bifacial - Factor	80% ± 10%

**MECHANICAL LOADING**

Front Side Maximum Static Loading	5400 PA
Rear Side Maximum Static Loading	2400 PA

**TEMPERATURA RATINGS (STC)**

Temperature Coefficient of Isc	+0.046%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Pmax	-0.30%/°C

**PACKING MANNER**

Container	40ft(HQ)
Number of modules per container	936
Number of modules per pallet	36
Number of pallets per container	26

TAMESOL Authorized Solar Dealer

**Note:** The specifications are obtained under the Standard Test Conditions (STCs): 1000 W/m2 solar irradiance, 1.5 Air Mass, and cell temperature of 25°C. The NOCT is obtained under the Test Conditions: 800 W/m2, 20°C ambient temperature, 1m/s wind speed, AM 1.5 spectrum.

Please contact [info@tamesol.com](mailto:info@tamesol.com) for technical support. The actual transactions will be subject to the contracts. This parameter is for reference only and it is not a part of the contracts. The specifications are subject to change without prior notice.